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NOTES ON THE BIOLOGY, DISTRIBUTION AND CONSERVATION OF *DRYANDRA ARBOREA* (PROTEACEAE)

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INTRODUCTION

Dryandra arborea C. A. Gardn. is the most recently described species of the endemic South-Western Australian genus, *Dryandra*. It is also the most inland member of this genus.

DISTRIBUTION

The species is confined to jasperlite (banded iron formations) hills in the North-Western Goldfields. Previously thought confined to the Die Hardy Ranges, Mt. Jackson and Koolyanobbing Ranges, surveys by the author with the Western Australian Museum Survey Department have located populations on the eastern ranges; Mt. Dimer, the Hunt Ranges and Bungalbin Ranges. We failed to locate any *Dryandra arborea* in the High Clere Hills (near Bullfinch) and the Mt. Manning Ranges were not visited.

The largest populations are found in the Mt. Jackson-Bungalbin Ranges which are contiguous by low jasperlite rises.

BIOLOGY

Dryandra arborea grows as a large shrub-small tree of up to 6 metres

in height, occasionally with a basal trunk of c. 1 metre diameter. Plants are killed by fire, and regenerate from seed.

During May 1978 plants were sporadically flowering, with 5-10 open inflorescences per plant (flowering occurs between March and October, there are no summer records).

Inflorescences were visited by Spiny-checked and Singing Honeyeaters.

ASSOCIATED FLORA

Tetralitheca harperi F. Muell. (Tremandraceae) is presently known only from the Mt. Jackson-Bungalbin Ranges, where it grows in red skeletal soil over jasperlite. This species flowers sporadically according to rainfall. It is an isolated unique species in the genus, its closest relative being *Tetralitheca halmaturina* J. M. Black; a Kangaroo Island endemic (Thompson, 1975).

Eucalyptus foruiianii C. A. Gardn. Once considered endemic to the Mt. Jackson region, collections at Perth now span Rainy Rocks, Pigeon Rocks, Die Hardy Ranges, Evanston and a tentative collection from near Lake King (Keighery and Marchant, 1980). However, the ranges hold the northernmost populations of the species, and the easternmost populations of *Eucalyptus ebbanoensis* (Keighery and Marchant, 1980).

Acauthocarpus sp. nov. (Gk 2471). This undescribed species occurs in discrete disjunct populations between East Yuna and Mt. Jackson. The populations in the Mt. Jackson Ranges are the most inland records for this endemic genus.

Conostylis androstenma Lindl. sssp. *argentea* J. W. Green was located in the Bungalbin Ranges (GK 1759). This now forms the most inland record for the genus, the previous limit being thought to be Duladgin Rock, some 85 kilometres south-west (C.T.R.C. Report, 1974).

An area of yellow sand plain, dominated by *Eucalyptus leptopoda* and *E. burracoppinensis*, contains an undescribed genus of Epacridaceae (Gk 1758), and warrants conservation.

CONSERVATION

Dryandra arborea does not occur on the loamy plains between the ranges. Hence the species exists as a series of disjunct populations. Several reserves will therefore be required to conserve this unique species. One reserve should cover the southern populations in the Koolyanobbing Ranges, another the northern in the Die Hardy Ranges. The greatest need is however, for a large reserve covering the Mt. Jackson-Bungalbin Ranges. This would preserve the biggest population and the associated flora mentioned previously.

The Conservation Through Reserves Committee's (1974) report recommended that the Mt. Manning/Die Hardy and Mt. Jackson ranges be reserved. I consider an extension to include the Bungalbin Ranges an absolute necessity. The major flora of Bungalbin is also quite different being a mixture of mallee (*Eucalyptus ebbanoensis*) and trees of *E. cylindrocarpa* over *Plectrachne* sp. This forms an extremely attractive, and rare association which needs adequate conservation. No reserves exist in the region at the present time.

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